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Quasisolution of an inverse boundary-value problem in aerohydrodynamics with a limited maximum velocity on a contour in a range of angles of attack

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Abstract

In this paper we develop a method for constructing a quasisolution to the inverse boundary value problem in aerohydrodynamics with a limited maximum velocity on an airfoil surface in a range of angles of attack. We reduce this problem to the minimization of a quadratic functional subject to constraints in the form of equalities and inequalities. © 2011 Allerton Press, Inc.

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Keywords

Constraint on the maximum velocity, Method of quasisolutions, Quadratic programming, Solvability conditions